

***The Institution of Engineers, Australia: Sydney Division
Engineering Heritage Committee***

Oral History Program: Biographical Notes

Raymond Alfred Piesse (1927-)

Acoustical Physicist

- Birth & Family:** Ray Piesse was born on the 15th June 1927 at Wagin in Western Australia. His father, Selby Piesse, was a farmer and his mother, Mavis (nee Temby) was a nurse. Ray was the eldest of four children, two boys and two girls.
- Education:** Primary School was completed by correspondence and attendance at two one-teacher schools, as the family moved around fairly often.
- Piesse was awarded a government scholarship to attend Albany Agricultural High School, where he became Head Prefect and Dux of the school in 1944.
- He won a second scholarship to attend the University of Western Australia. This scholarship allowed him to live on campus at St George's College.
- Qualifications:** BSc (Physics) at the University of Western Australia, 1945-1948.
BSc (Hons), 1949.
- Memberships:** National Association of Testing Authorities Registration Advisory Committee on Acoustics and Vibrations, 1962-1990. Chairman, 1976-1990.
- Australian Standards Association Committee on Instrumentation and Measurement Techniques in Acoustics, 1963-1980, Chairman.
- Australian Standards Association on Otological and Audiological Instrumentation and Measurement Techniques, 1963-1990, Chairman.
- Various other Australian Standards Committees, 1963-1990.
- Australian Acoustical Society, foundation member and Fellow, 1968-present. Member of the NSW Division Committee from 1972-1990, at various times acting as Chairman, Secretary, Treasurer and convenor of the Membership Grading and Technical Programs Committee. Became a Federal Councillor in 1974.
- SHHH (*In full please – I don't know what this is*) Aust. Inc., 1984-present. Member of the Professional Advisory Board to 1994 and Member of the Board of Management and Technical Advisor, 1994-1998. Made a life Member in 1998.
- Work History:** From early in his schooling, Piesse wanted to become an engineer, but later changed his mind and decided instead to pursue a career in physics.
- For a short while after completing university, he returned to the family farm and contemplated remaining on the land, but when he obtained a position in 1949 as the Senior Physicist at the Commonwealth Acoustics Laboratories in the Commonwealth Department of Health, Piesse left the farm to move to Sydney. Commonwealth Acoustics Laboratories later became known as the National Acoustics Laboratories.

Piesse worked on the development of electronic and electro-acoustic aspects of hearing aids and equipment for measuring hearing; instrumentation for measurement and analysis of noise; and methods for calibration of this equipment. This work contributed to the design of the first transistor hearing aids to be manufactured in Australia.

From 1955, still as Senior Physicist, Piesse became responsible for all physical services including the provision of hearing aids and measuring equipment for the whole of Australia. In this position, he also worked on the development of hearing protective devices and hearing conservation programs, and surveyed aircraft noise around Sydney Airport.

Piesse was promoted in 1964 to the position of Principal Physicist, a position he held until 1968. In this role he was responsible for research in acoustics and electro-acoustics. This work included new types of hearing aids for children and ex-servicemen and the development of a range of earmuffs and earplugs, which were promoted for use in government industries and the armed services. He believed that the most notable aspect of this work was the development of guidelines for hearing conservation programs for people exposed to excessive noise in industry and the armed services. These guidelines were published in 1962 and made a significant contribution to the Australian Standard Code of Practice for Hearing Conservation and to the National Health and Medical Research Council's Model Regulations for Hearing Conservation (1973).

In 1968 Piesse was made Director of the National Acoustic Laboratories, responsible for the entire operation. This included research programs on the effects of noise on people, hearing and hearing aids, and the provision of hearing aids to people eligible for assistance under Commonwealth Government Schemes throughout Australia. Some of the more notable activities he was involved in at this time included extension of hearing services to include pensioners (1968), the extension of internationally recognised research activities, the building of world standard facilities in Chatswood (1986) and the transfer to 'behind the ear' hearing aids from 'in the ear' hearing aids. Australia was the only country at this time to be doing everything from design through to fitting.

Piesse noted that over time, one of the biggest changes in the service was the increased amount of rehabilitation that patients received. While he held the post of Director, he continued to be involved in hands-on work in the area of acoustic systems. Although the Laboratories were not closely associated with the development of the Bionic Ear, they did watch these developments very closely, and Piesse acknowledged that although there were some concerns with the technology, there were also some advantages.

He enjoyed the role of Director initially, but felt that by the end of his term in the mid-1980s there was too much pressure from the Federal Government and from commercial competition. Overall however, he enjoyed his work and remained in touch with the field after his retirement.

Prepared by Patricia Taaffe, July 2003, from an oral history interview with Ray Piesse conducted by Margo Beasley on 02/02/2000